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10/020,678	12/12/2001	Victor Il'ich Kopp	1014-12	1407

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EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,678

Applicant(s)

KOPP ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 24-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☒ Claim(s) 11 and 18-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-23, drawn to a an apparatus for irradiating a fiber , classified in class 65, subclass 529.
- II. Claims 24-29, drawn to a method of irradiating a fiber, classified in class 65, subclass 392.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used to practice a materially different process, such as using a the laser to ablate material from a fiber or wire see US patent 6534743 for instance.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Edward Etkin on 4 May 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-23. Affirmation of this election must be made by applicant in replying to this Office action.

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Claims 24-29 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The claims have various terms that are not mentioned in the specification. There is no mention of such things as: rotating means, radiation means, moving means and rotation unit. These are just a few examples. This is **not** a complete list. Applicant is **REQUIRED** to review all of the claims and provide proper antecedent basis for all the claimed subject matter. One must be able to refer to the specification to determine what Applicant is referring to with the claims. It is unreasonable to expect the public to have to guess/determine what features in the specification correspond to the claimed features.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As indicated in the above objection of the specification, the claims have many features that are not mentioned (by name) in the specification. Claims are interpreted in light of the specification. Since many of the claimed features are not mentioned in the specification, it makes it difficult (if not impossible) to be able to interpret the claims in light of the specification. And since one cannot properly interpret the claims, one cannot determine what the claims actually cover and thus the claims fail to distinctly claim the invention.

35 U.S.C. 112, sixth paragraph states that a claim limitation expressed in means-plus-function language "shall be construed to cover the corresponding structure...described in the specification and equivalents thereof." "If one employs means plus function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112." *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) (in banc).

The proper test for meeting the definiteness requirement is that the corresponding structure (or material or acts) of a means (or step)-plus-function limitation must be disclosed in the specification itself in a way that one skilled in the art will understand what structure (or material or acts) will perform the recited function. See *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1381, 53 USPQ2d 1225, 1230 (Fed. Cir. 1999)

First it is noted that various claims use means-plus-function language. For example, claim 1 has “rotating means for rotating the optical fiber” and “radiation means for exposing....” Second, the specification does not even use the term “means” – thus one cannot simply turn to the specification to see a specific discussion as to what is meant by the any specific means-plus function term. Third, Examiner could not find any disclosure of any structure used to perform the various functions. Rather, the specification describes most of the invention in terms of its functionality – not in terms of any structure. The specification fails to set forth disclosure which adequately informs one of ordinary skill what the “corresponding structure” is. Furthermore the vagueness prevents one of ordinary skill from making a reasonable interpretation as to what the “equivalents thereof” are. Again, the above listed “means” is not intended to be inclusive of all such means – Applicant is required find and correct all such “means”.

Claim 3, line 2 “said rotating means are” indicates there are plural rotating means. But claim 1, line 8 uses “said rotating means is” which indicates there is only one rotating means. It is unclear whether there is one, more than one, or “one or more” rotating means. Likewise claim 11 uses “radiation means are” – which makes it unclear whether there must be plural radiation means in claim 1.

Claim 5: there is no antecedent basis for “said motion means”.

Claim 6: there is no antecedent basis for “said motion means”.

Claim 9: it is unclear if “said UV beam” refers to the beam of line 3 of claim 8, or the focused beam.

Claim12 – it is unclear what the difference is between a “rotation unit” and a “rotating means” – especially where they have the same function – to rotate a fiber around its longitudinal axis.

From MPEP 2173.05(h):

Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being “selected from the group consisting of A, B and C.” See *Ex parte Markush*, 1925 C.D. 126 (Comm’r Pat. 1925).

Presently, at least claim 13 has a group which is very similar to the above accepted form, but there is no indication that the group is “consisting of” the members. Therefore it is impossible for anyone to tell if applicant’s group is open or closed to additional members - and thus the claim presents uncertainty or ambiguity with respect to the question of scope of the claim. If the above acceptable form is not desirable for Applicant, Examiner can be telephoned for other appropriate expressions.

Claims14, 18, 20 and 16: there is no antecedent basis for “the optical fiber core perpendicular to the optical fiber longitudinal axis”.

Claim 16 refers to a second directing means, but there is no mention of a first directing means. It is unclear if the mention of the second requires that there also be a first. Similarly, claims 18 and 20 refer to a third directing means – without a first and a second. This makes it unclear whether there must be a second and a first. The same applies to the fourth directing means of claim 20: must there be a first, second and third?

Claim 22 is indefinite for substantially the same reasons claims 14, 16, 18 and 20 are.

Claim 18: there is no antecedent basis for "said first focusing device".

Claim Objections

Claims 11, and 18-21 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 1 requires that the moving means moves the fiber. However, claim 11 indicates that the fiber is stationary, and the laser moves instead. These are two mutually exclusive things. Claim 11 has no corresponding scope with claim 1: it takes it to a completely new scope. Therefore claim 11 does not limit claim 1. Claim 11 is not further treated on its merits.

Claim 18 does not appear to further limit claim 8. Claim 8 requires that the laser creates a beam which is then focused. However claim 18 appears to be directed embodiments such as those of figures 3C and 3D. But those embodiments, the beam is not focused by the focusing unit – rather the beam is split and each partial beam is focused by two separate focusing units. Two half-beams focused by two lenses is mutually exclusive of one beam focused by one unit. Thus claim 18 does not further limit claim 8 – rather it takes it to a completely different scope

Claim 20 is objected to for substantially the same reason claim 18 is. Claims 18-21 are not further treated on their merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-19 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Presby 6534741

As indicated above, the claims are indefinite. And examiner cannot tell what is covered by the claims – most notably the means-plus-function limitations. Presently, Examiner is interpreting the limitation such that any structure that can use to perform the functions will be deemed to read on the means-plus-function. The terms have not been defined in any manner which would exclude such an interpretation.

There is no explicit mention of a rotating means and the moving means. However, as per col. 3, lines 40-46 discloses that the fiber is rotated and moved. It would have been obvious to provide structure to perform these functions, because it would be nearly impossible to do it by hand. As to the radiation means: see figure 3 and col. 4: line 26 – YAG and excimer lasers are usually UV lasers.

It is noted that there is no disclosure of imposing refractive index modulation as claimed. Such is a an intended use limitation. The limitation “to impose

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a chiral refractive index modulation reasonably signifies an intention. Presently, the expression of an intended result creates a broader claim than would the expression of an actual result. Therefore the Office interprets the claim using the broadest meaning, namely the claim requires the intention of a result. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Presently, by using a lower power intensity and faster linear motion (than the Presby method) one could create the chiral fiber. This is not to be interpreted as a statement that it would be obvious to do such. Rather, the structure is such that one CAN perform the intended use. The claims are not method claims and thus no method steps need be shown in the prior art or shown to be obvious

Claim 2: such would have been obvious because such is how lathes typically function.

Claim 3: there is no indication that the radiation means is stationary – whether something is moving is an intended use limitation.

Claim 4: it would have been obvious to have tension in the fiber, otherwise it will sag and such will make it impossible to accurately focus the laser.

Claims 5-6: Presby does not indicate whether there are two independent stages or one single stage. Such would have been an obvious matter of design choice. Both ends of the fiber have to be rotated and translated – it is not invention to have one apparatus act on both ends, or have two independent apparatuses with each working on opposite ends.

Claim 7: see how claim 4 is treated.

Claim 8: it is clear from figure 3 that there is a focusing device.

Claim 9: it is well understood that laser units have mirrored surfaces, For example a ruby laser has mirrored surfaces (one which is partially mirrored). Photons reflect off the mirrors, and cause excited atoms to give off other photons which cause a cascading effect.

Claim 10: see col. 4, line 16 which refers to lens 129.

Claim 12: the specification mentions the freely rotating device 208 – but gives no indication what this does or does not mean. No examples or description of the freely rotating device. It would have been obvious that the second end is held by something which is free to rotate as the artisan sees fit. If it does not rotate, then one cannot practice the invention. Furthermore, anything can be made to rotate by picking it up and rotating it.

Claim 13 is clearly met.

Claim 14: There is no explicit mention of any directing means. However, see col. 3, lines 41-48. The focus of the laser can be set to any depth. It is clear that it could be directed to various locations. It would have been obvious to have some apparatus to

direct the laser to the desired location, because Presby teaches that changing the position is part of the invention.

Claim 15: see how claim 9 is treated. Alternatively: it would have been obvious to use mirrors, lenses and/or any other known optical device so as to get the laser in the exact desired location, because it is a lot easier to adjust a mirror or lens, than it is to adjust an entire laser.

Claims 16-17: See col. 3, lines 41-48. The focus of the laser can be set to any depth. It is clear that it could be directed to various locations on/in the core if one desires. But that depends on the size of the fiber and the core. A core of 30 micron diameter would require different parameters from a fiber of 700 micron diameter. For the second directing means: first it is noted that there is no required first directing means. The second: see how claims 14-15 are treated above.

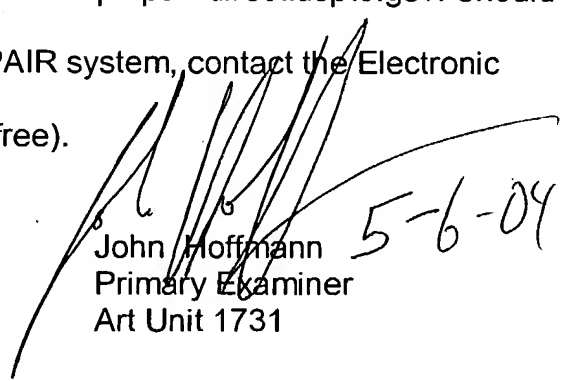
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Novack, Pekay, Hill, Oleskevich, Kim, Fernald, Itoh and Ahrens are cited as being cumulative to Presby.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John Hoffmann
Primary Examiner
Art Unit 1731

5-6-04

jmh